

Amendment and Response

Applicant: Georg Georgakos

Serial No.: 10/766,689

Filed: January 28, 2004

Docket No.: I435.103.101/12869US

Title: STORAGE CAPACITOR WITH HIGH MEMORY CAPACITY AND LOW SURFACE

IN THE CLAIMS

Please amend claims 1 and 13 as follows:

1. (Currently Amended) A storage capacitor, comprising:
at least one first column shaped electrode including a stack of metal parts spaced at intervals from one another, and contact elements connecting respective pairs of the metal parts;
at least one second column shaped electrode including a stack of metal parts spaced at intervals from one another, and contact elements connecting respective pairs of the metal parts;
and
the at least one first electrode and the at the least one second electrode positioned laterally adjacent one another and cooperable with one another to provide a storage capacitance.
2. (Previously Presented) The storage capacitor of claim 1, wherein the stack of the at least one first electrode extends substantially parallel to the stack of the at least one second electrode.
3. (Previously Presented) The storage capacitor of claim 1, including a plurality of the second electrodes positioned laterally adjacent and peripherally around the at least one first electrode.
4. (Previously Presented) The storage capacitor of claim 3, wherein the second electrodes are substantially evenly distributed peripherally around the at least one first electrode.
5. (Previously Presented) The storage capacitor of claim 3, wherein the second electrodes are positioned on a rectangle that surrounds the at least one first electrode.
6. (Previously Presented) The storage capacitor of claim 3, wherein the second electrodes are positioned on a hexagon that surrounds the at least one first electrode.

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7. (Previously Presented) The storage capacitor of claim 3, wherein the second electrodes are positioned on a diamond shape that surrounds the at least one first electrode.
8. (Previously Presented) The storage capacitor of claim 1, including a plurality of the second electrodes connected together.
9. (Previously Presented) The storage capacitor of claim 8, including a plurality of the first electrodes connected together.
10. (Previously Presented) The storage capacitor of claim 8, including a further metal part and further contact elements connecting the further metal part to the second electrodes, the further metal part spaced from the at least one first electrode in a longitudinal direction of the at least one first electrode by a distance corresponding to a thickness of the further contact elements.
11. (Previously Presented) The storage capacitor of claim 1, wherein the metal parts of the at least one first electrode are positioned in respectively corresponding metal layers in which respectively corresponding metal parts of the at least one second electrode are also respectively positioned.
12. (Previously Presented) The storage capacitor of claim 1, including a plurality of the second electrodes, the metal parts of each of the second electrodes positioned in respectively corresponding metal layers in which respectively corresponding metal parts of the remaining second electrodes are also respectively positioned, and wherein the metal parts in at least one of the metal layers are connected together.
13. (Currently Amended) A memory cell arrangement, comprising:
a plurality of memory cells for storage of information, each said memory cell including a storage capacitor; and

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each said storage capacitor including at least one first column shaped electrode that includes a stack of metal parts spaced at intervals from one another, and contact elements connecting respective pairs of the metal parts;

each said storage capacitor including at least one second column shaped electrode that includes a stack of metal parts spaced at intervals from one another, and contact elements connecting respective pairs of the metal parts; and

the at least one first electrode and the at the least one second electrode of each said storage capacitor positioned laterally adjacent one another and cooperable with one another to provide a storage capacitance.

14. (Previously Presented) The memory cell arrangement of claim 13, wherein at least one of the second electrodes is included in adjacent ones of said storage capacitors.

15. (Previously Presented) The memory cell arrangement of claim 13, including a further metal part connecting all of the second electrodes of all of the storage capacitors to one another.

16. (Original) A microelectronic circuit, comprising:

at least one storage capacitor, the at least one storage capacitor including at least one first electrode that includes a stack of metal parts spaced at intervals from one another, and contact elements connecting respective pairs of the metal parts;

the at least one storage capacitor including at least one second electrode that includes a stack of metal parts spaced at intervals from one another, and contact elements connecting respective pairs of the metal parts; and

the at least one first electrode and the at the least one second electrode positioned laterally adjacent one another and cooperable with one another to provide a storage capacitance; a selection circuit coupled to the at least one first electrode of the at least one storage capacitor; and

the at least one second electrode of the at least one storage capacitor adapted for coupling to a predetermined potential.

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17. (Previously Presented) The microelectronic circuit of claim 16, including a memory cell arrangement, said memory cell arrangement including a plurality of said storage capacitors, said storage capacitors forming respective memory cells for storage of information.

18. (Previously Presented) The microelectronic circuit of claim 16, wherein the stack of the at least one of first electrode is substantially parallel to the stack of the at least one second electrode.

19. (Previously Presented) The microelectronic circuit of claim 16, wherein a plurality of second electrodes are positioned laterally adjacent and peripherally around the at least one first electrode.

20. (Previously Presented) The microelectronic circuit of claim 19, wherein each of the plurality of second electrodes include a stack of metal parts spaced at intervals from one another, and contact elements connecting respective pairs of the metal parts.